
SRI design

4610 UNIVERSITY AVE, SUITE 1018
MADISON, WI 53705

608-233-9688; FAX: 608-233-0968

May 23, 2012

Mr. Craig Enzenroth, President
The Gallina Companies
101 East Main St., Suite 500
Mt. Horeb, WI 53572

Subject: Structural Observation at the Ideal Body Shop
500 S. Park St., Madison

Dear Mr. Enzenroth:

Pursuant to your request, I went to Ideal Body Shop located at 500 S. Park Street to perform a general visual observation of the structural condition of the building on May 10, 2012. The building is a rectangular building with a dimension of 80 feet by 92 feet, which was apparently built in 1927. The building is approximately 27 feet tall at the front and 16 ½ feet at the truss bearing point at the back. The front includes a mezzanine while the back portion is a single story building. From the old drawings, the structural elements are steel trusses spanning the 80 feet. The trusses are supported by columns. The roof is supported by wood rafters spanning between the steel trusses, which are spaced at 15'-3" apart. There are some bridging and horizontal x-braces for the trusses.

The mezzanine level is framed by bar joists supported by steel framing columns and beams. The floor is poured concrete. The roof above is wood joists running in the E-W direction, which in turn are supported by steel members. The original drawing showed an extensive amount of windows at front and on the side. Most of those windows are now closed with either insulated stucco, or drywall. Except for the window areas, all the walls are in-filled with 8" clay brick or clay tiles (probably 2 wythes). These walls appear to be unreinforced.

The following is a summary of my observations:

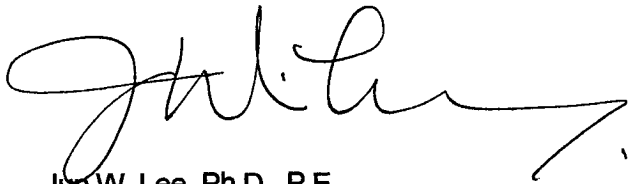
1. The steel framing appears to be in good condition in general. Some lintels at the front facade have moderately rusted.
2. The side wall masonry is in poor shape. There are extensive cracks through the masonry, cracks at the foundation wall supporting the masonry, and cracks in the mortar joints.
3. The front masonry is in very poor shape. The front wall has out-of-vertical-plane displacements as well as relative displacements between some adjacent elements. There are cracks through the brick as well as in the mortar joints. Flashings are cracked and ineffective, and caulking shrunk and cracked.
4. The side wall masonry along the alley has the same cracking problem. In addition, some of the face bricks have deteriorated, and the mortar, weathered and loosen.
5. The rear masonry wall has the same cracking problem as the others. In addition, the rear masonry is also deteriorated, and the mortar, weathered and loosen as well.
6. Since there are no obvious x-braces or other lateral resisting elements for the building, these clay brick walls and clay tile walls are serving as the shear walls for the building.

Unreinforced brick is apparently acceptable at the time this building was built in 1927. For our current code, these walls are totally unacceptable. These walls are too tall to be without vertical reinforcing, and without intermediate support. In addition, in an earthquake zone, unreinforced clay tiles or bricks are simply unacceptable. Further, the condition of the brick is poor, and extensive tuck-pointing will be required. These walls cannot be reused without extensive repair and structural reinforcing in any rebuilding or remodeling in the future.

Photographs are included with this letter report.

Thank you for your kind attention. Please feel free to contact me if you have any questions or comments.

Truly Yours,

A handwritten signature in black ink, appearing to read 'Jun W. Lee', with a long horizontal flourish extending to the right.

Jun W. Lee, Ph.D., P.E.
President



Fig.1. Side view – Ideal Body Shop

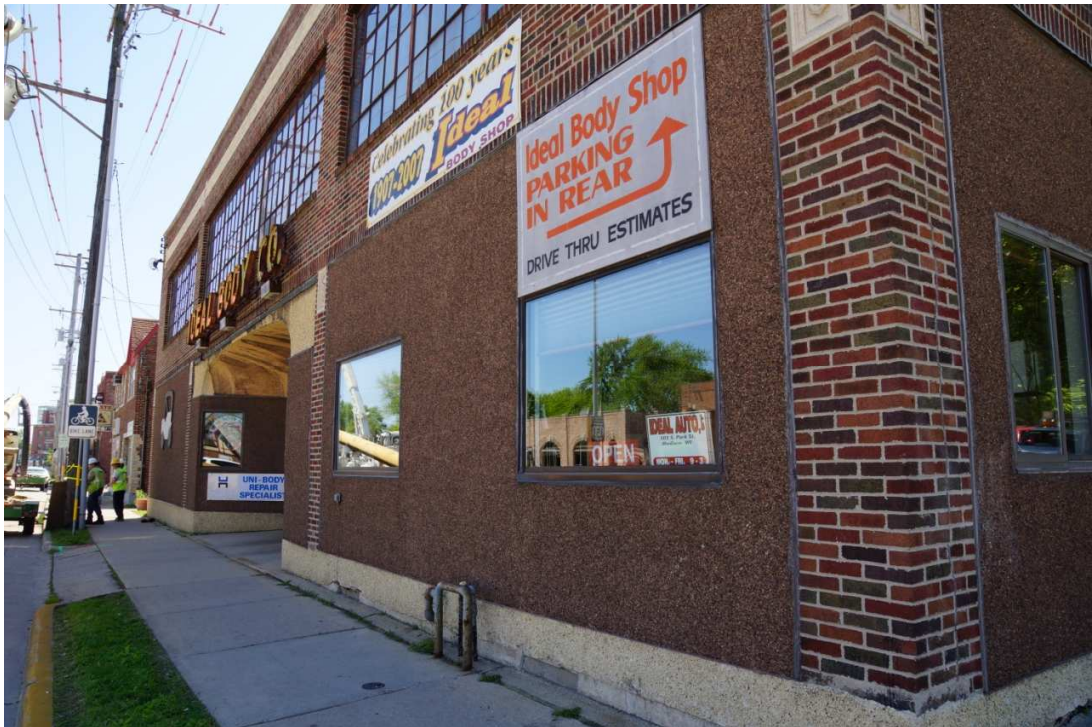


Fig. 2. Front view – Ideal Body Shop



Fig. 3. Steel Roof Trusses

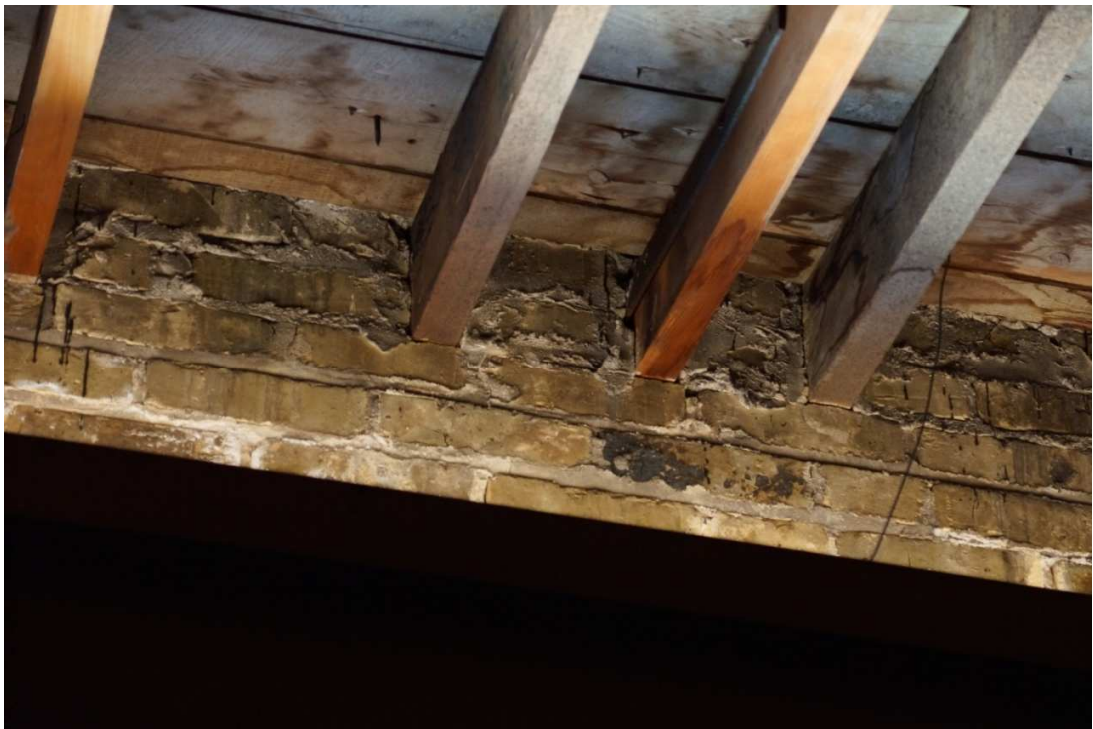


Fig.4. Front roof rafters



Fig. 5. Front wall displacement



Fig.6. Front wall Displacement



Fig. 7. Deteriorated Chimney Brick



Fig. 8. Wall at the Back



Fig. 9. Deteriorated brick at the back wall

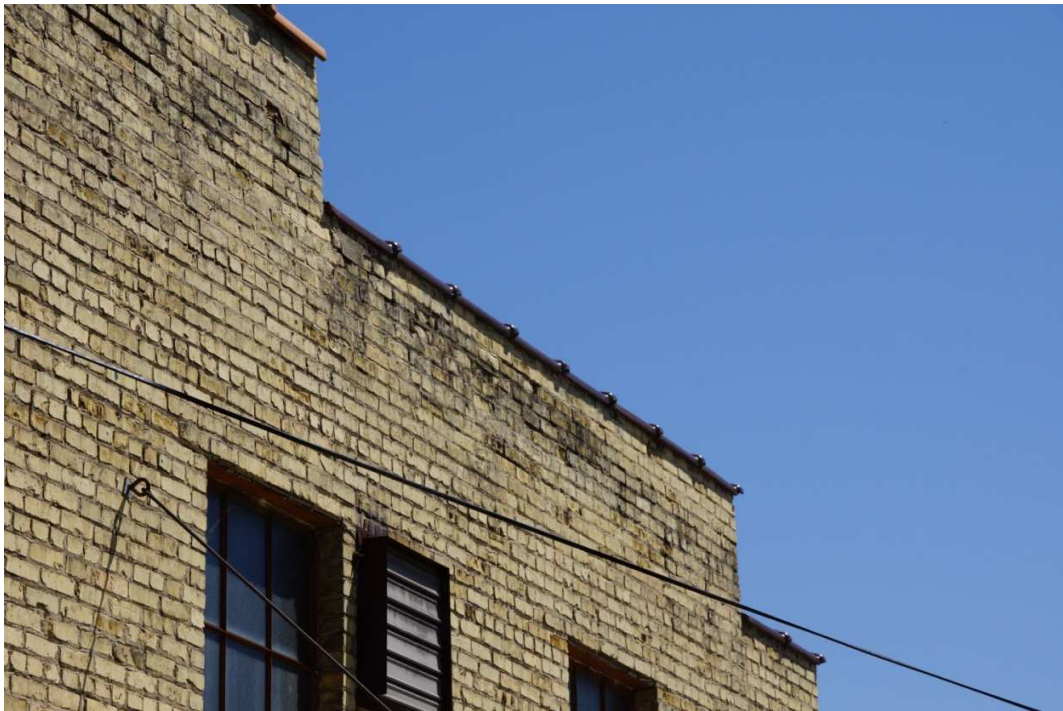


Fig. 10. Deteriorated brick at the back wall



Fig. 11. Displaced brick at the side facade



Fig. 12. Cracked mortar joint at the side façade



Fig. 13. Cracked foundation wall



Fig. 14. Cracked foundation wall



Fig. 15. Cracked corner stone.



Fig. 16. Vertical wall crack



Fig. 17. Crack at flashing and caulk

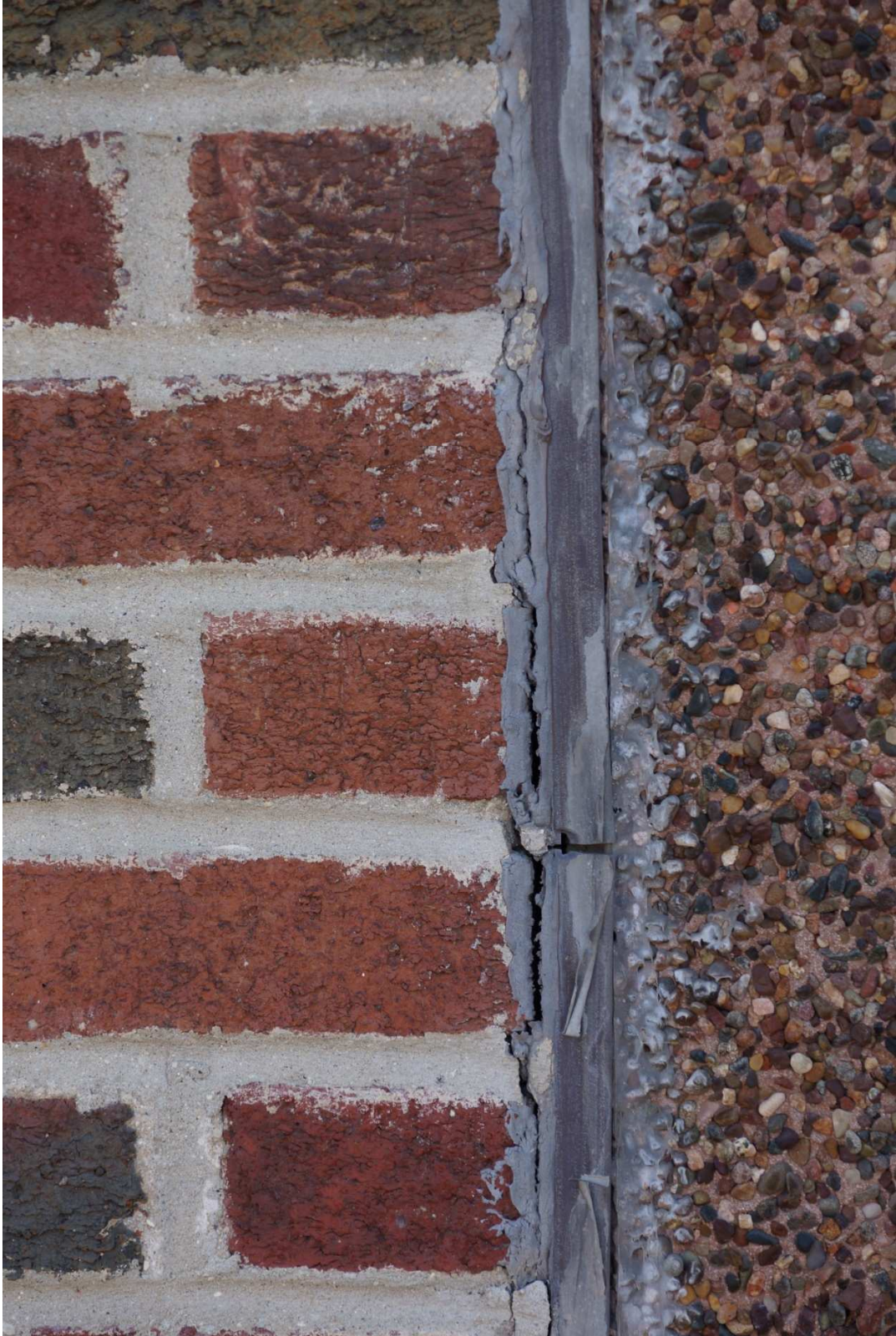


Fig. 18. Crack at flashing and caulk



Fig. 19. Cracked corner Stone



Fig. 20. Intact corner stone



Fig. 21. Stucco damage

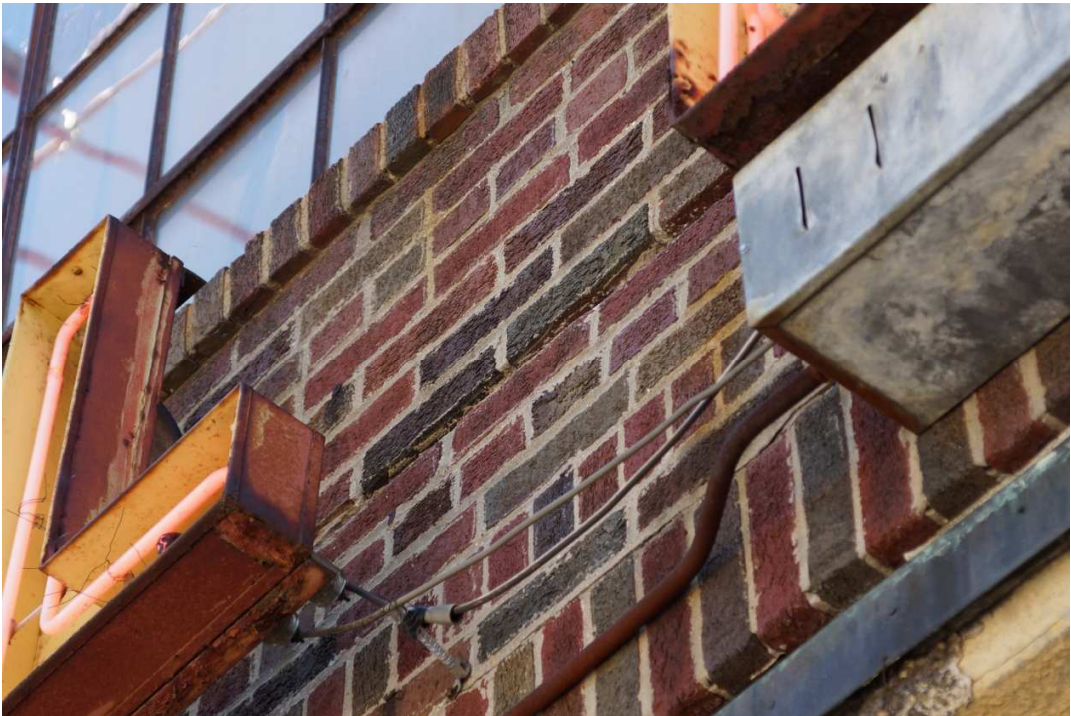


Fig. 22. Mortar deterioration at front wall

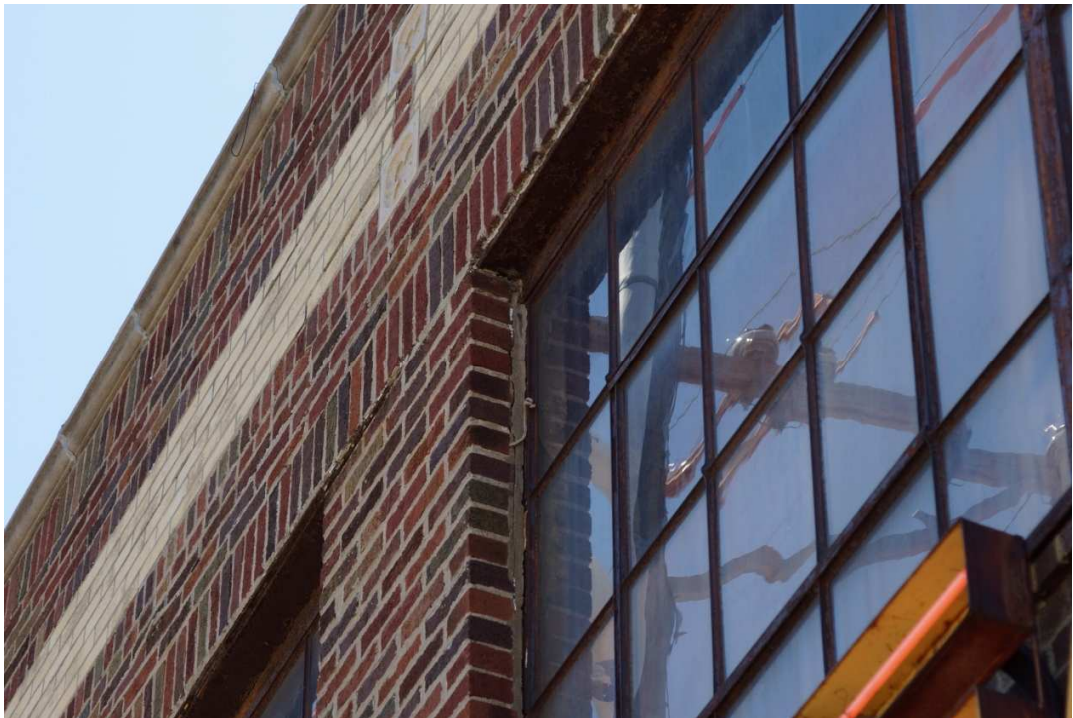


Fig. 23. Relative wall displacement between wall elements

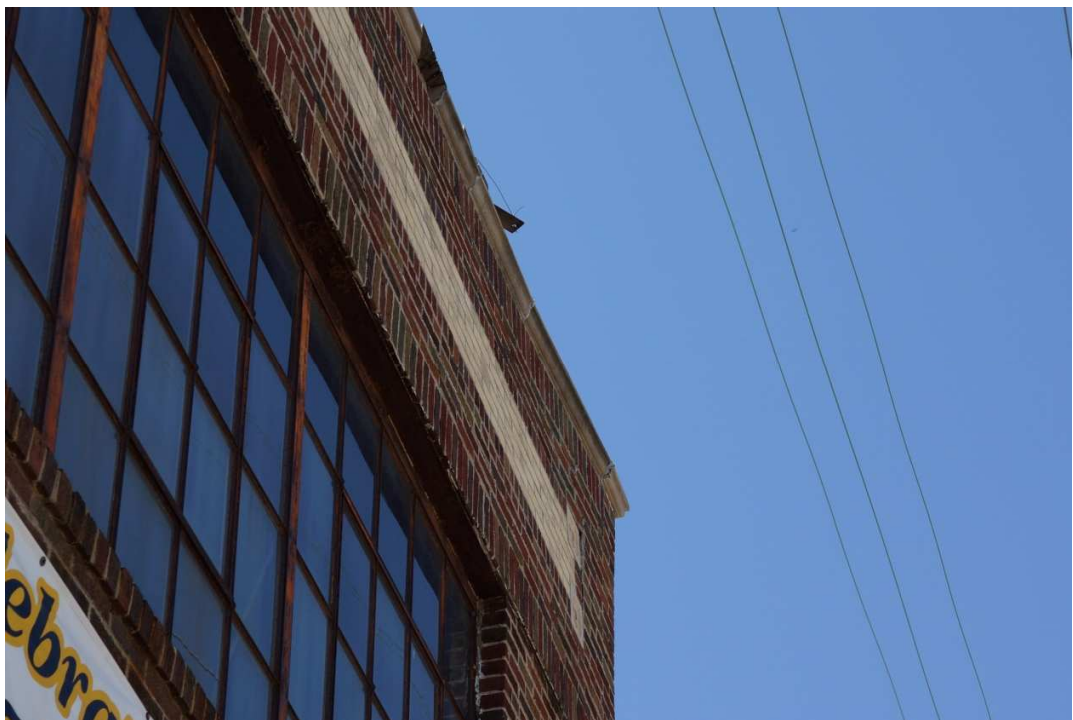


Fig. 24. Front wall displacement

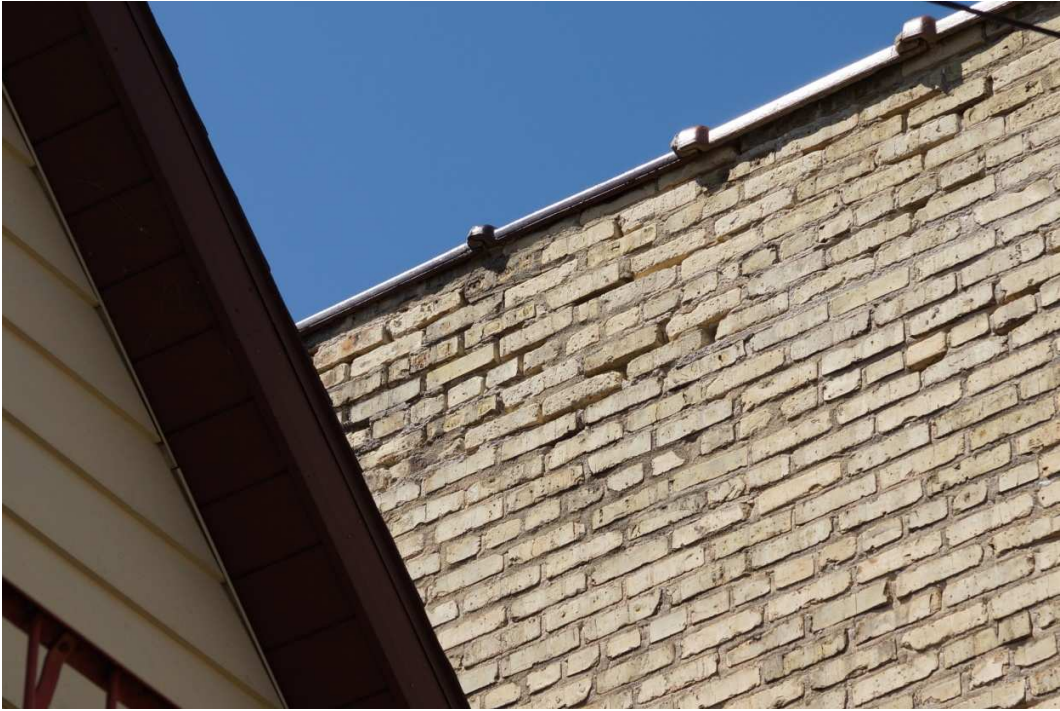


Fig. 25. Side wall condition